

ABSTRACT OF THE DISCLOSURE

A quartz crystal tuning fork resonator has quartz crystal tuning fork tines for undergoing vibration in an inverse phase. Each of the quartz crystal tuning fork tines has a first main surface and a second main surface opposite the first main surface, each of the first and second main surfaces having a central linear portion. The quartz crystal tuning fork tines extend from a quartz crystal tuning fork base. At least one groove is formed in the central linear portion of each of the first and second main surfaces of each of the quartz crystal tuning fork tines. A width of the groove in the central linear portion of one of the first and second main surfaces of each of the quartz crystal tuning fork tines is greater than or equal to a distance in the width direction of the groove measured from an outer edge of the groove to an outer edge of the tuning fork tine.